REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration are respectfully requested in view of the preceding amendments and the following remarks.

Rejections under 35 USC §§ 102/103

The rejections of:

1) claims 1, 3, 4 and 20 under 35 USC § 102(b) view of US 5,374,266 to Kataoka et al.;

2) claims 1, 10-15 and 20 under 35 USC § 102(b) in view of US 5,363,387 to Sinofsky;

3) claims 1, 3, 4, 15 and 20 under 35 USC § 102(b) view of US 5,458,594 to Mueller et al; and

4) claims 1 and 3-22 under 35 USC § 103(a) as being unpatentable over US 7,331,954 in view of US 5,971,755 to Liebermann et al.;

are summarily traversed.

Applicant respectfully submits that the pending claims are novel and non-obvious over these references.

Independent claim 1 is currently recited as follows:

> *A method for treatment of hard tissue present in a fluid-filled body cavity, wherein the fluid-filled body cavity is selected from salivary ducts and temporomandibular joints, the cavity having a diameter of 3 mm or less, the method comprising:*
>
> (a) *generating a laser beam by an Er:YAG laser device, said laser beam having a wavelength of about 2940nm; and*
>
> (b) *applying said laser beam to said hard tissue, or to a proximity of said hard tissue*

Independent claim 12 is currently recited as follows:

> *An endoscopic device comprising an aperture adapted for connecting to a Er:YAG laser having an optic fiber for insertion into a body cavity having a diameter of 3mm or less.*

Independent claim 15 is currently recited as follows:

> *A method for treatment of hard tissue present in any one of salivary ducts, temporomandibular joints and the like, comprising:*
>
> (c) *generating laser radiation by an Er:YAG laser device, said laser radiation having a wavelength of about 2940nm; and*
>
> (d) *irradiating said hard tissue with said laser radiation.*

The above listed rejections are traversed for at least the reasons set forth hereinbelow.

US 5,374,266 to Kataoka et al.

As indicated by the Examiner, this reference is directed to a medical laser specifically for use in treating teeth within the mouth. In particular, there is disclosed a medical laser treatment device comprising a laser generation source and a laser handpiece which comprises a light-guiding fiber used to guide a laser beam irradiated from the laser generation source, a probe for guiding the laser beam having been guided by the fiber to an object to be irradiated, at least two independent air supply passages and at least one water supply passage.

The laser handpiece is adapted such that the emission end of the light-guiding fiber is airtightly isolated from the incident end of the probe via a light-guiding shield plate to make the internal section of the light-guiding fiber airtight, to cool the emission end of the light-guiding fiber using dry gas supplied from the first air supply passage and to cool the incident end of the probe using gas supplied from the second air supply passage, and is also arranged such that water supplied from the water supply passage is blown out from the peripheral section of the leading end of the probe, thereby ostensibly preventing the emission end of said light-guiding fiber from absorbing moisture and being heated.

However, there is no disclosure or suggestion in this reference of providing a method including a laser for treating hard tissues in a fluid filled cavity, where the cavity has a diameter of 3mm or less, or where the cavity is a salivary duct or a temporomandibular joint, which are much smaller than the mouth, in contrast to claim 1 and claim 15.

It is respectfully submitted that the use of Erbium (Er:YAG) lasers for treatment of small fluid filled cavities such as salivary ducts and temporomandibular joints is not an obvious extension of the use of such lasers in other medical fields including the treatment of teeth in the

oral cavity. The significant heating effects produced by such lasers in applications to teeth in large body cavities, such as the mouth for example, are of no concern, as the bulk of tissue and liquids can absorb part of the heat. On the other hand, such potential heating effects as would be expected by a hypothetical person of ordinary skill to occur in small body cavities would be detrimental to the patient, as in contrast to larger cavities there is no bulk tissue or fluids to absorb the additional heat generated, and thus would be expected to cause damage to the small body cavity tissues if applied thereto. Thus, the hypothetical person of ordinary skill would not consider using such lasers for the aforementioned small cavities.

It is to be noted that the present application states that it is a surprising finding (page 5, line 26 to page 6, line 7) that Er:YAG lasers can actually be successfully used for small body cavities.

It is therefore respectfully submitted that claims 1 and 15 are novel and inventive over US 5,374,266, and at least for this reason, their dependent claims are also novel and inventive over this reference.

US 5,363,387 to Sinofsky

This reference is also specifically directed to the treatment of teeth, and a variable pulsewidth laser system is disclosed which employs an oscillating reflector to control the duration of laser pulses. In one embodiment, the oscillating mirror is swept (e.g., caused to swing back and forth) about an axis distinct from the optical axis, such that resonant conditions suitable for laser beam generation occur only at a particular location in the oscillating sweep path. It is suggested that by varying the scanning waveform, laser pulses of different durations can be generated.

However, there is no disclosure or suggestion in this reference of providing a method including a laser for treating hard tissues in a fluid filled cavity, where the cavity has a diameter of 3mm or less, or where the cavity is a salivary duct or a temporomandibular joint, which are much smaller than the mouth, in contrast to claim 1, claim 12, and claim 15.

As before, it is respectfully submitted that the use of Erbium (Er:YAG) lasers for treatment of small fluid filled cavities such as salivary ducts and temporomandibular joints is not an obvious extension of the use of such lasers in other medical fields including the treatment of teeth in the oral cavity. The significant heating effects produced by such lasers in applications to teeth in large body cavities, such as the mouth for example, are of no concern, as the bulk of

tissue and liquids can absorb part of the heat. On the other hand, such potential heating effects as would be expected by a hypothetical person of ordinary skill to occur in small body cavities would be detrimental to the patient, as in contrast to larger cavities there is no bulk tissue or fluids to absorb the additional heat generated, and thus would be considered by a hypothetical person of ordinary skill to cause damage to the small body cavity tissues if applied thereto. Thus, the hypothetical person of ordinary skill would not consider using such lasers for the aforementioned small cavities.

It is to be noted that the present application states that it is a surprising finding (page 5, line 26 to page 6, line 7) that Er:YAG lasers can actually be successfully used for small body cavities.

It is therefore respectfully submitted that claims 1, 12 and 15 are novel and inventive over US 5,363,387, and at least for this reason, their dependent claims are also novel and inventive over this reference.

US 5,458,594 to Mueller et al.

This reference is also specifically directed to the treatment of teeth, and discloses a method and apparatus for the ablation of hard dental material, using a rapidly pulsed laser employ a crystal or absorber film disposed in the propagation path of the laser radiation, the crystal or absorber film being disposed at the laser output and serving as an interface with an optical conductor which conveys the laser radiation to the treatment site. The crystal or absorber film smooths the time/intensity characteristics of the pulsed laser radiation to the extent that transmission to the treatment site using optical wave guides is possible. Additional protective features are provided to prevent the ablated biological material to destroy the exposed optical end surfaces of the treatment applicator. Additional design features improve the ergonomic efficiency of the handpiece and its ability to be sterilized.

However, there is absolutely no disclosure or suggestion in this reference of providing a method including a laser for treating hard tissues in a fluid filled cavity, where the cavity has a diameter of 3mm or less, or where the cavity is a salivary duct or a temporomandibular joint, which are much smaller than the mouth, in contrast to claim 1 and claim 15.

Again, it is respectfully submitted that the use of Erbium (Er:YAG) lasers for treatment of small fluid filled cavities such as salivary ducts and temporomandibular joints is not an obvious extension of the use of such lasers in other medical fields including the treatment of teeth in the

oral cavity. The significant heating effects produced by such lasers in applications to teeth in large body cavities, such as the mouth for example, are of no concern, as the bulk of tissue and liquids can absorb part of the heat. On the other hand, such potential heating effects as would be expected by a hypothetical person of ordinary skill to occur in small body cavities would be detrimental to the patient, as in contrast to larger cavities there is no bulk tissue or fluids to absorb the additional heat generated, and thus would be considered by a hypothetical person of ordinary skill to cause damage to the small body cavity tissues if applied thereto. Thus, a hypothetical person of ordinary skill would not consider using such lasers for the aforementioned small cavities.

It is to be noted that the present application states that it is a surprising finding (page 5, line 26 to page 6, line 7) that Er:YAG lasers can actually be successfully used for small body cavities.

It is therefore respectfully submitted that claims 1 and 15 are novel and inventive over US 5,458,594, and at least for this reason, their dependent claims are also novel and inventive over this reference.

US 7,331,954 to Temelkuran and US 5,971,755 to Liebermann et al.

The Examiner has rejected original claims 1, 3-22 as being obvious over US 7,331,954 to Temelkuran in view of US 5,971,755 to Liebermann et al.

Temelkuran was filed on 8 April 2005 and claims benefit from a number or earlier applications, the earliest application having been filed on 8 April 2004. On the other hand, the present application was filed on 23 January 2004, claiming priority from an Israel Patent Application filed on 24 January 2003.

Thus, since the priority date of the present application (as well as the filing dated thereof) is prior to the earliest priority date of US 7,331,954, it is respectfully submitted that US 7,331,954 fails to qualify as a reference under 35 USC § 102 and therefore cannot be cited against the claimed subject matter.

Liebermann et al. is a secondary reference only, was not cited against the independent claims by the Examiner, and in any case does not disclose or suggest the features disclosed by these claims.

It is therefore respectfully submitted that claims 1 and 3-22 are novel and inventive over

the cited references, for at least the above noted reasons.

Conclusion

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully Submitted,
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